

Helms Research Group - Materials Science Division - Lawrence Berkeley National Laboratory
Berkeley CA 94705 – lmaserati@lbl.gov

Work experience

<i>January 2015 to present</i>	Postdoctoral Fellow New synthesis and assembly of metal-organic-frameworks membranes for CO ₂ /N ₂ separation. LBNL – The Molecular Foundry – Organic and Macromolecular Synthesis Facility 1 Cyclotron Road, Berkeley, CA United States Scientific Research / Nanotechnology
<i>April 2014 to December 2014</i>	Research Fellow Thermoelectric measurements on semiconducting nanocrystal films for characterizing novel materials plasmonic behavior; study of the organometallic perovskite lattice deformation under an external electric field using x-rays diffraction. ISTITUTO ITALIANO DI TECNOLOGIA – Nano-Chemistry Department Via Morego 30, Genova, Italy Scientific Research / Nanotechnology
<i>March 2010 to December 2010</i>	Business Analyst Strategic Consulting, Marketing, Sales Monitoring and Pricing, applied to the following industries: Pharmaceutical, Retail Products and Appliances. ACCENTURE MANAGEMENT CONSULTING – Strategy Service Line Via Quadrio 17, Milano, Italy Management Consultancy
<i>June 2005 to July 2005</i>	Website manager VIAGGI DELLO ZODIACO SCRL Via Vittorio Veneto, 6, Piacenza, Italy Travel Agency

Education and trainings

<i>January 2011 to April 2014</i>	PhD in Nanosciences Colloidal nanocrystals films deposition, chemical treatments and characterization for optoelectronic applications (solar cells, photodetectors, and gas sensors). Collaboration with NOKIA and Cambridge Univ. (UK) for novel graphene/ nanocrystals devices design and fabrication. UNIVERSITA' DEGLI STUDI DI GENOVA / ISTITUTO ITALIANO DI TECNOLOGIA Nano-Chemistry Department - Via Morego 30, Genova, Italy
<i>May 2009 to December 2009</i>	Internship with title of Research Scholar Graphene production via Chemical Vapor Deposition on copper. Raman and SEM characterization, sample preparation for STM applications. UNIVERSITY OF CALIFORNIA at BERKELEY DEPARTMENT OF PHYSICS, 366 Le Conte Hall, Berkeley, CA 94720, United States
<i>September 2007 to December 2009</i>	Master of Science in Physics Engineering for Nano-technology - Final grade: 110/110 Thesis title: "Growth and characterization of large area free-standing monolayer graphene" - Solid State Physics - Low Dimensional Physics - Photonics - Nonlinear Dynamic Systems I also attended an international course of Nuclear Engineering and Plasma Physics in Madrid at UPM (14 - 22 November 2008) POLITECNICO DI MILANO - Piazza Leonardo Da Vinci 32, Milano, Italy
<i>September 2007 to March 2008</i>	Master of Science in Physics Engineering for Nano-Technology (Erasmus Project) CZECH TECHNICAL UNIVERSITY IN PRAGUE - Zikova 4, Prague, Czech Republic

September 2004
to July 2007

Bachelor in Physics Engineering - Final grade: 99/110

Thesis title: "Magnetic Microscopy of BaFe₂O₃"

- Quantum Physics
- Photonics
- Laser Applications
- Telecommunication Systems
- Biomedical Optics

POLITECNICO DI MILANO - Piazza Leonardo Da Vinci 32, Milano, Italy

September 1999
to July 2004

Scientific High School Diploma - Final grade: 94/100

Mathematics, Physics, Chemistry, Biology, Languages (English, Latin), Philosophy

LICEO M. GIOIA - Viale Risorgimento 1, Piacenza, Italy

Publications

- 2016 Lorenzo Maserati, Stephen M. Meckler, Changyi Li and Brett A. Helms, "Minute-MOFs: Ultrafast Synthesis of M₂(dobpdc) Metal-Organic Frameworks from Divalent Metal Oxide Colloidal Nanocrystals" **Chemistry of Materials**, 02/2016; 28(5).
- 2015 Luca De Trizio, Roberto Gaspari, Giovanni Bertoni, Ilka Kriegel, Luca Moretti, Francesco Scotognella, Lorenzo Maserati, Yang Zhang, Gabriele C. Messina, Mirko Prato, Sergio Marras, Andrea Cavalli, Liberato Manna, "Cu_{3-x}P Nanocrystals as a Material Platform for Near-Infrared Plasmonics and Cation Exchange Reactions", **Chemistry of Materials**, 01/2015; 27(3).
- 2014 Lorenzo Maserati, Iwan Moreels, Mirko Prato, Roman Krahne, Liberato Manna, Yang Zhang, "Oxygen sensitivity of atomically passivated CdS nanocrystal films", **ACS Applied Materials & Interfaces**, 05/2014; 6(12).
- 2013 Enrico Dilella, Yi Xie, Rosaria Brescia, Mirko Prato, Lorenzo Maserati, Roman Krahne, Andrea Paoletta, Giovanni Bertoni, Mauro Povia, Iwan Moreels, Liberato Manna "CuIn_xGa_{1-x}S₂ Nanocrystals with Tunable Composition and Band Gap Synthesized via a Phosphine-Free and Scalable Procedure", **Chemistry of Materials**, 07/2013; 25(15).
- 2013 Marco Zanella, Lorenzo Maserati, Manuel Pernia Leal, Mirko Prato, Romain Lavieville, Mauro Povia, Roman Krahne, Liberato Manna "Atomic Ligand Passivation of Colloidal Nanocrystal Films via their Reaction with Propyltrichlorosilane", **Chemistry of Materials**, 01/2013; 25(8).
- 2010 Victor W. Brar, Decker, Hans-Michael Solowan, Yang Wang, Lorenzo Maserati, Kevin T. Chan, Hoonkyung Lee, O. Girit, Alex Zettl, Steven G. Louie, Marvin L. Cohen, Michael F. Crommie "Gate-controlled ionization and screening of cobalt adatoms on a graphene surface", **Nature Physics**, 10/2010; 7(1):43-47.
- 2010 Benjamin Alemán, William Regan, Shaul Aloni, Virginia Altoe, Nasim Alem, Caglar Girit, Baisong Geng, Lorenzo Maserati, Michael Crommie, Feng Wang, Alex Zettl "Transfer-Free Batch Fabrication of Large-Area Suspended Graphene Membranes", **ACS Nano**, 08/2010; 4(8):4762-8.
- 2010 William Regan, Nasim Alem, Benjamin Alemán, Baisong Geng, Caglar Girit, Lorenzo Maserati, Feng Wang, Michael Crommie, A. Zettl "A direct transfer of layer-area graphene", **Applied Physics Letters**, 04/2010; 96(11-96):113102 - 113102-3.

Personal skills and competences

Mother tongue Self-assessment European level (*)	Italian									
	Understanding				Speaking				Writing	
	Listening		Reading		Interaction		Production			
English	C2	Proficient	C2	Proficient	C2	Proficient	C2	Proficient	C2	Proficient
French	B2	Independent	B2	Independent	B1	Independent	B1	Independent	A1	Basic
(*) Common European Framework of Reference for Languages										

Computer skills and
competences

Expert in Microsoft Office tools (Excel, PowerPoint, Word, Access), Photoshop Suite, Origin, IGOR, Matlab. Good knowledge of Linux. Basic knowledge of C++, Labview and COMSOL.

Technical skills and
competences

Metal-organic-frameworks synthesis, porosimetry measurements. CVD technique, Raman spectroscopy, FTIR, SEM, TEM, AFM/EFM, STM, XRD, thermal evaporation and sputtering of metals and oxides, optical lithography, making of nanocrystal films through several deposition techniques, wire bonding, optical and electrical measurements on films. Gas sensing measurements. Preparation and testing of solar cells. Skilled in clean room and glovebox work.

Schools and
Conferences attended

IEEE PV Specialists Conference, Seattle, 20-25/06/2010; European Summer School on Nanoscience and Nanotechnologies (ESONN) Grenoble, 20/08-11/09/2011; International School of Solid State Physics "Materials for Renewable Energy", Erice, 18-28/07/2012; E-MRS Conferences (Strasbourg 24-28/06/2013; Lille 26-30/05/2014); NaNaX6 Conference, Bad Hofgastein, 18-23/05/2014. EFRC PI meeting, Washington D.C. 26-27/10/2015 – finalist in Postdoctoral Researcher Competition.

Other skills and
competences

I think teamwork is crucial. Through years I put focus on social skills in order to improve communication with people I work with and thus increase my performance. I am an easy going but determined person. Exploring new cultures and living in different countries is important in my life.